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REMARKS

Claims 1 and 3-23 are pending in the application. Claim 2 has been cancelled previously without prejudice. Applicant reserves the right to pursue this claim in a later filed application claiming the benefit of priority to this application. New claims 24-37 have been added.

Following entry of the amendments claims 1, 2-37 will be under examination.

The specification at pages 15-16 has been amended to incorporate the complete citation of the referenced publication. Claims 13 and 16 have been amended to correct obvious informalities. Claims 1, 12 and 16 have been amended to provide proper antecedent basis for claimed terms. Support for the amendment to obtaining a signal can be found, for example, at pages 45-46. Claim 1 also has been amended to incorporate the element of at least 10 different target nucleic acids from claim 21. The dependency in claim 21 has been amended to reflect this amendment to claim 1. Dependent claims 3-10 have been duplicated under independent claims 12 and 16. Support for the amendments can be found in original claims 21 and 3-10 as filed, respectively.

Accordingly, the amendments do not raise any issues of new matter. Further, the amendments do not introduce new issues for consideration because new elements have not been introduced and all claims, including the amended dependents have been searched and examined on the merits. Therefore, entry of the amendments is respectfully requested.

With respect to the comment regarding references cited in the specification, Applicant draws the Office's attention to the Information Disclosure Statement (IDS) previously filed on October 24, 2001, and made of record by the Examiner in the Office Action mailed October 17, 2003.

With respect to the objection of claim steps for using periods instead of parenthesis, Applicant draws the Office's attention to the response filed April 19, 2004, in which this issue was addressed. Amendments were made according to Office guidelines wherein the suggested parenthesis were incorporated as shown by the underlining and the periods were deleted as shown by the strikeouts.

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Regarding the formality objection of claim 12 allegedly because steps d) and g) should recite a first ligation enzyme and a second ligation enzyme, respectively, Applicant contends that such an amendment is unwarranted. Steps d) and g) are separate steps of the claimed method. Enzymes by definition are capable of reuse. Because steps d) and g) claim separate contacting steps of first and second ligation complexes, respectively, it is unnecessary and unduly restrictive to require a second ligation enzyme. Accordingly, withdrawal of this formality objection is respectfully requested.

Claims 13 and 16 have been amended to recite the appropriate preposition. Accordingly, withdrawal of this formality objection is respectfully requested.

The phrase duplications in claim 16 have been corrected to remove the redundancy. Because the duplications were incorporated through typographical error and not incorporated by amendment, Applicant has omitted these duplications from the claims as presented above. Accordingly, no amendment to claim 16 is required regarding these duplications.

Rejections Under 35 U.S.C. § 112

Claims 1, 12 and 16 stand rejected under 35 U.S.C. § 112, second paragraph, as indefinite allegedly for lack of an antecedent basis for the phrase "wherein a signal obtained from said second analysis is not diminished more than 40% compared to a signal obtained from said first analysis." These claims have been amended to include the recitation of obtaining a signal in the first and second analyses, respectively. Accordingly, the objected term has proper antecedent support and withdrawal of this ground of rejection is respectfully requested.

Claim 12 stands rejected under 35 U.S.C. § 112, second paragraph, as indefinite allegedly for recitation of the term "target nucleic acid flanking a first [or second] target sequence." The Office assets that it is unclear whether the first or second target sequence corresponds to part of the target nucleic acid allegedly because the first and second ligation primers in steps b) and f) differ from the first and second ligation primers in steps d) and g).

Applicant has amended claim 12 so that steps d) and g) recite that the claimed ligation primers are complementary to the target nucleic acid recited in steps b) and f), respectively. Accordingly, this ground of rejection is moot and withdrawal is respectfully requested.

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Rejections Under 35 U.S.C. § 103

Claims 1, 3, 8-11, 19 and 20 stand rejected as allegedly obvious over Khanna et al. in view of Monforte et al. Khanna et al. is alleged to describe a multiplex PCR/LDR method for detection of K-ras where first and second analyses correspond to contacting a target sequence with first and second detection primers. The Office asserts that Figure 2C shows samples where a signal observed between certain bands is not diminished by more than 40% between first and second analyses. Monforte et al. is alleged to describe immobilization of either primer or nucleic acid template using a solid support. The Office concludes that it would have been obvious to immobilize the primers or target sequences of Khanna et al. because immobilization would enhance separation of hybridized complexes.

Dependent claims 4 and 5 stand rejected as allegedly obvious over Khanna et al., in view of Monforte et al., as applied above, and further in view of Zhang et al., U.S. Patent No. 5,876,924. Dependent claims 6 and 7 stand rejected as allegedly obvious over the additional reference to Uematsu et al., U.S. Patent No. 6,225,064. Zhang et al. is cited allegedly for describing detection of nucleic acids by ethidium bromide visualization. Uematsu et al. is cited allegedly for describing amplification of different nucleic acids using different fluorescent labeled primers.

While not conceding the correctness of the Office's rejection, Applicant has amended claim 1 to incorporate the element directed to at least 10 different target nucleic acids. As conceded in the Office Action at paragraph 18, Khanna et al. does not teach or suggest performing first and second analyses on at least 10 different target nucleic acids. Khanna et al. similarly does not teach or suggest performing a first and a second analysis on a target sequence where the signal from the second analysis is not diminished more than 40% compared to a signal obtained from the first analysis as claimed. Instead, Figure 2C of Khanna et al. shows a serial dilution of a wild type or a mutant nucleic acid sequence. Accordingly, the Khanna et al. in view of Monforte et al. do not teach or suggest the invention as claimed and withdrawal of this ground of rejection with respect to claim 1 is respectfully requested. The rejection of claims 3-5, 8 and 10 is moot in light of the cancellation of these claims. Because the rejection to the independent

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claim is moot, the rejection of dependent claims 4-7 also is moot and withdrawal of these grounds of rejections is similarly requested.

CONCLUSION

In light of the Amendments and Remarks herein, Applicant submits that the claims are in condition for allowance and respectfully request a notice to this effect. Should the Examiner have any questions, he is invited to call the undersigned attorney.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 502624 and please credit any excess fees to such deposit account.

Respectfully submitted,

MCDERMOTT WILL & EMERY LLP



David A. Gay
Registration No. 39,200

4370 La Jolla Village Drive, Suite 700
San Diego, CA 92122
858.535.9001 DAG:cec
Facsimile: 858.597.1585
Date: September 28, 2004